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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,215	06/03/2002	Fulvio Margherita	3606-0120P	4789

2292 7590 12/14/2004

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EXAMINER	
MEHRPOUR, NAGHMEH	

ART UNIT	PAPER NUMBER
2686	8

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/048,215	MARGHERITA ET AL.	
	Examiner	Art Unit	
	Naghmeh Mehrpour	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 12* is/are rejected.

7)☒ Claim(s) *10 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9, 12, are rejected under 35 U.S.C. 102(b) as being anticipated by Hess et al. (US Patent Number 5,471,670).

Regarding claim 1, Hess teaches a method for the dynamic allocation of radio channels (CI) in digital telecommunication networks with time division duplex access (TDD is a method used in cellular network of employing TDMA), the radio channels (CI) being associated to radio signals divided into frames having a pre-determined duration and each frame is divided into a pre-determined number of timeslots (CI) (col 5 lines 30-47) which are assigned priority values (PI) based values (PI) on and/or quality measures of channels (CI), each communication service (Sx) employing a number channels (CI) a time characterized in that includes the following operational steps:

a) measuring the path loss (PLx) of the signal with which the communication service (sx) has been requested (col 3 lines 62-64, col 12 lines 11-20, col 6 lines 12-20);

b) allocating the number (RX) of channels (Ci) of the communication service (Sx) in a

timeslot (Tj) having a priority value (Pi) increasing with the path loss (PLx) of the number (Rx) of channels (Ci) signal, in such a way that the se allocating in timeslots (Ti) having priority values (PI) increasing with the path loss (PLx) of the signal (col 6 lines 11-55).
Base station for determining the inbound signal strength, determines the path loss. The path loss is the value of transmitted power subtracted from the value of the received power. The inbound signals strength is the signal strength received by BTS associated with the alternate resource (another BTS) when the communication is handoff to the new BTS2. The more allocation to different BTSs, the more channels are needed, and proportionally the path loss increases (col 12 lines 12-20). Therefore the priority list of channels are proportional with the path loss increase. The number of alternates sources which measured during one time slot in a frame, are the number of priority channels. During one idle time in a frame, the list of all the BTS with respect the usability provides the prioritized list of handoff candidates (col 6 lines 11-33). Each path (RX, TX) from alternate resource/BTS to communication unit/Mobile uses a (RF) channel in a TDMA system (col 5 lines 30-55). When path loss increases the level of interference increases, and when the level if interference drops below the threshold, the new channel for assigning to alternate resource (BTS) is allocated (handoff)(col 6 lines 29-67, col 7 lines 1-3). Therefore, when the number of assigned channels (number of alternates resources) increases the path loss increases too (col 12 lines 1-33).

Regarding claim 2, Hess teaches a method according to claim 1, characterized in that each request for a communication service (Sx) the services employing the same number (Rx) of

channels of the requested service (Sx) are reordered in such way that the attenuation (PLx) increases with priority values (Pi) (col 4 lines 50-59, col 5 lines 5-9).

Regarding claim 3, Hess teaches a method according to claim 2, characterized that includes an allocation algorithm including the following operational steps:
first searching, starting from timeslots (Ti) with highest priority values (Pi), channels requested service (Sx) equal timeslot (Tx) having the number (Rx) of channels number of free of the second searching (col 6 lines 13-33), starting higher than that the timeslot (Tx) found with the first search (col 3 lines 62-64, col 12 lines 11-20), communication service (Sy) having the same number (Rx) of allocated channels from timeslots with priority values comparing the path loss values of the signals of the requested communication service and of communication service (Sy) found with the second search (col 6 lines 11-50);
allocating, according to the result of this comparison, one these communication services (Sx, Sy) in the timeslot (Tx) having said number (Rx) of free channels (Ci) (col 6 lines 13-32)

Regarding claim 4, Hess teaches a method according to claim 3, characterized in that said algorithm is reiterated according the result of said comparison between the attenuation values the signals of the requested communication service (Sx) and of the communication service (Sy) found with the second search (col 5 lines 5-13).

Regarding claim 5, Hess teaches a method according to claim 3, characterized that is searched, starting from timeslots with priority values (Pi) higher than that of the timeslot (Tx) found with

this first search, the communication service (Sy) whose signals show the lower attenuation (PLm) among the communication services having the same number (Rx) timeslot (Tx) channels allocated in the same (col 5 lines 1-13, col 6 lines 13-33).

Regarding claim 6, Hess teaches a method according to claim 1, characterized in that at each release of communication service (Sx) are reordered according increasing priority values (Pi) the services employing the same number (Rx) of channels of the service released (Sx) (col 6 lines 13-33).

Regarding claim 7, Hess teaches a method according to claim 6, characterized in includes a release algorithm including the following operational steps:
third searching (col 5 lines 5-13), among the timeslots lower than that the timeslot with priority values (Pi) (Tx) the released communication service (Sx), timeslot (T) in which at least a communication service having the same number (Rx) of channels of the communication service released (Sx) allocated (col 6 lines 12-33);
allocating in the timeslot (Tx) of the released communication service (Sx) the communication service (Sy) characterized by the highest attenuation among the services employing Rx channels in the timeslot found with the third search (col 5 lines 5-13).

Regarding claim 8, Hess teaches according to claim 7, characterized in that said third searching and allocating steps the release algorithm are performed as in the following:

third searching, among the timeslots with lower than that communication service (Sx), timeslot which at least communication service employing number channels lower than that of the communication service released (Sx) priority values the timeslot (Tx) of the released allocated (col 6 lines 52-67).

Regarding claim 9, Hess teaches a method of claim 7, allocating in the algorithm is reiterated starting form the last timeslot (Tx) of communication service (col 6 lines 13-65).

Regarding claim 12, Hess teaches system for the dynamic allocation of radio channels (CI) In digital telecommunication with time division duplex access (TDD is a method used in cellular network of employing TDMA) (col 5 lines 30-57), the system including at least one base station (1) for the reception and transmission of radio signals associated to the radio channels (CI) from/to a plurality of user equipment (2), the radio signal being divided in frames having pre-determining duration and each frame being divided into a pre-determined number of timeslots (col 6 lines 12-29, col 7 lines 35-63), (Ti) which are assigned priority values (Pi) based on interference and/or quality measures of channels (Ci) (col 6 lines 29-33), each communication service (Sx) employing a particular number (Rx) of said channels (Ci) at a time, characterized in that said base station (1) includes means for the measurement of the path loss (PLx) of the signal with which said communication service (Sx) has been requested (col 11 lines 50-67, col 12 lines 1-33), as well as a control processor suitable to implement all the steps of the method according to one of the previous claims (col 3 lines 40-59).

Allowable Subject Matter

3. Claims 10-11, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tat (US Patent 5,864,759) disclose radio telephones and method of operation

Tiedemann, Jr. et al. (US Patent Number 6,304,755) disclose method and apparatus for performing mobile assisted hard handoff between communication systems

Hunsberger (US Patent Number 6,167,282) disclose method and apparatus for updating site ranking factors in a wireless communication system

5. **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 703-308-7159. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold be reached (703) 305-4379.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

December 10, 2004

MELODY MEHRPOUR
PATENT EXAMINER